

Remarks

The application has been reviewed in light of the Final Official Action mailed June 1, 2006. Applicant respectfully requests that the Examiner reconsider the rejection in light of the fact that all claims require "a support body and a substrate holder which is supported thereon and driven in rotation, a gas bearing and a rotary drive being formed by means of gas flowing into the separating gap between support body and substrate holder from nozzles, characterized in that the support body and the substrate holder are formed as rings, and the support body includes a ring bead which projects into a ring recess in the substrate holder."

Claim 12 is similar to claim 1 in that it requires "a support body and a substrate holder which is supported thereby in such a manner that it can be driven in rotation... it being possible to produce a gas cushion beneath the substrate holder by means of gas which emerges from nozzles which open out into a separating gap between support body and holding body, on which gas cushion the substrate holder rests in such a manner that it is driven in rotation by directed gas streams, characterized in that the support body and the substrate holder are formed as rings, the support body includes a ring bead which projects into a ring recess in the substrate holder[.]"

The Examiner rejected claims 1, 2, 4, 5, 9, 10, and 12 under 35 U.S.C. 103(a) as being unpatentable over Aschner (US 6,005,226) in view of Switky et al (US 5,270,262). The Examiner rejected claims 6, 8, 11, 13-20 under 35 U.S.C. 103(a) as being unpatentable over Aschner in view of Switky in further view of White (WO 01/99257). The Examiner rejected claims 7 and 21 under 35 U.S.C. 103(a) as being unpatentable over Aschner or Sato (US 5,527,393) in view of Switky in further view of White, in further view of Frijlink (US 4,860,687).

Switky discloses a semiconductor device package 10 with a top plate 11 that is "held in registry" with a bottom plate 14 by means of a plastic ring 12 molded into place. (col. 3 l. 51-55). The top 11 and bottom 14 plates form a cavity "by virtue of a resilient plastic bead 15 which is formed on the leadframe." (col. 3 l. 65-68). The package thick-

ness is determined by the top 11 and bottom 14 plates being compressed onto the bead 15 and the bead 15 is flattened. (col. 4 l. 47-51, col. 5 l. 60-63). Switky discloses that the objective is to prevent molding from contacting the semiconductor device and to provide a seal that will preclude the entry of fluid. (col. 2 l. 11-12; col. 5 l. 61-65). Switky also discloses that it is beneficial if the top and bottom plates are cemented to bead 15. (col. 5 l. 41-44, l. 53-55). Switky does not disclose that bead 15 protects into any form of recess in either top 11 or bottom 14 plates.

Based on the foregoing Applicant submits that Switky does not anticipate the claimed invention because Switky does not disclose “a support body and a substrate holder which is supported thereon and driven in rotation,” or “a gas bearing and a rotary drive being formed by means of gas flowing into the separating gap between support body and substrate holder from nozzles,” or “the support body and the substrate holder are formed as rings,” or “the support body includes a ring bead which projects into a ring recess in the substrate holder.”

Aschner discloses an RTP processing system comprising a fixed base 310 with a pin 510 centered about an axis of rotation 330 and that fits in a detent 520 in a rotatable wafer holder 410. (col. 4 l. 12-19). The Examiner notes that Aschner does not disclose “a ring bead projecting into a ring recess in the substrate holder.” As a result, Aschner does not anticipate the claimed invention.

Applicants respectfully submit that the claimed invention is not rendered obvious by Aschner in view of Switky. In order for the claimed invention to be obvious over the prior art, there must be some suggestion or motivation in the cited references to modify or combine the references in accordance with the claimed invention. *See, e.g., In re Mills*, 916 F.2d 680, 682, 16 USPQ2d 1430, 1432 (Fed. Cir. 1990).

First, Applicant submits that there is no motivation to combine these references because they are directed to different technologies. Aschner is directed to Rapid Thermal Processing systems, which process entire semiconductor wafers. Switky is directed to a semiconductor chip package, the semiconductor chip being a tiny segmented portion of an overall wafer. Neither reference indicates that technology associ-

ated with securing a semiconductor chip within a package could be applied to technology associated with processing an entire semiconductor wafer. As a result, one skilled in the art would not be motivated to combine these references.

Second, the difference in scale between a wafer and an individual chip indicates that one skilled in the art would not associate the two different technologies. Considering that in the semiconductor industry processing methods and considerations change as wafer size moves from 6 inches to 8 inches, one skilled in the art would not look to a semiconductor chip, a tiny fraction of a wafer, and recognize that the elements incorporated in semiconductor packaging could be applied to a rotatable wafer holder in an RTP system.

Third, Applicant submits that there is no motivation to combine these references because they have different objectives. Aschner is concerned with rotating a wafer or wafer holder over a fixed base with an RTP system. The holder and the base are dynamic relative to one another. Switky is concerned with securing two plates to a bead and protecting the inner cavity from the mold and moisture. Unlike Aschner, the device in Switky is a static device, i.e. not dynamic. The elements of Switky are fixed and they do not rotate relative to one another. The Examiner's proposed combination would incorporate the bead that is used to secure two plates to form a semiconductor package and place such a bead in the interface between rotating substrate holder and a support body. There is no indication in either reference that the elements in a static system could be applied to the rotational elements on an RTP system. Applicant submits that this further supports the lack of motivation to combine the references.

Fourth, the use of the bead to secure the plates within the package indicates that Switky teaches away the use of the bead for purposes of a dynamic system. This also supports the lack of motivation to combine the references.

Fifth, even if these references were to be combined they still would not render the claimed invention. As noted above, Switky discloses that the bead is not received in a recess in the plates. Thus applying Switky to Aschner, as suggested by the Examiner, would still lack "a ring bead which projects into a ring recess." Further, Switky dis-

closes two plates that are pressed and secured to the bead. Thus, if one skilled in the art were to apply Switky to Aschner there is no indication that such a modification would not also include securing the wafer holder and the base to the bead. In such an embodiment, the combination would then also fail to disclose "a support body and a substrate holder which is supported thereon and driven in rotation."

In view of the foregoing remarks, it is respectfully submitted that all of the claims currently pending in the application are in condition for allowance. Applicant respectfully requests that the Examiner reconsider the final rejection and notice of allowance is earnestly requested.

Respectfully submitted,



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